0057849 H1797

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-059 H1797

DATE RECEIVED: 05/30/02 LVL LOT # :0205L803

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B14R98						
LEAD, TOTAL	001	W	02L0290	05/23/02	06/04/02	06/06/02
LEAD, TOTAL	001 REP	W	02L0290	05/23/02	06/04/02	06/06/02
LEAD, TOTAL	001 MS	W	02L0290	05/23/02	06/04/02	06/06/02
LAB QC:						
LEAD LABORATORY	LC1 BS	W	02L0290	N/A	06/04/02	06/05/02
LEAD, TOTAL	MB1	W	02L0290	N/A	06/04/02	06/05/02

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B02-059
LVL#: 0205L803
SDG/SAF#: H1797/B02-059

W.O.#: 11343-606-001-9999-00
Date Received: 05-30-02

METALS CASE NARRATIVE

1. This narrative covers the analysis of 1 water sample.

2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.

3. All analyses were performed within the required holding times.

4. Please refer to the Sample Receipt Check List for sample discrepancies in LvLI's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits.

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).

7. The preparation/method blank (MB) was within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

8. All ICP Interference Check Standards were within control limits.

9. The laboratory control sample (LCS) was within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.

10. The matrix spike (MS) recovery was within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. The duplicate analysis was within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

13. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

6/8/05
Date

gmb/m05-803

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 02052803

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: √3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7			__99
Antimony	__6010B __7041 [5]	__200.7 __204.2			__99
Arsenic	__6010B __7060A [5]	__200.7 __206.2	__3113B		__99
Barium	__6010B	__200.7			__99
Beryllium	__6010B	__200.7			__99
Bismuth	__6010B [1]	__200.7 [1]		__1620	__99
Boron	__6010B	__200.7			__99
Cadmium	__6010B __7131A [5]	__200.7 __213.2			__99
Calcium	__6010B	__200.7			__99
Chromium	__6010B __7191 [5]	__200.7 __218.2			__SS17
Cobalt	__6010B	__200.7			__99
Copper	__6010B __7211 [5]	__200.7 __220.2			__99
Iron	__6010B	__200.7			__99
Lead	√6010B __7421 [5]	__200.7 __239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7		__1620	__99
Magnesium	__6010B	__200.7			__99
Manganese	__6010B	__200.7			__99
Mercury	__7470A [3] __7471A [3]	__245.1 [2] __245.5 [3]			__99
Molybdenum	__6010B	__200.7			__99
Nickel	__6010B	__200.7			__99
Potassium	__6010B __7610 [4]	__200.7 __258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]		__1620	__99
Selenium	__6010B __7740 [5]	__200.7 __270.2	__3113B		__99
Silicon	__6010B [1]	__200.7		__1620	__99
Silica	__6010B	__200.7		__1620	__99
Silver	__6010B __7761 [5]	__200.7 __272.2			__99
Sodium	__6010B __7770 [4]	__200.7 __273.1 [4]			__99
Strontium	__6010B	__200.7			__99
Thallium	__6010B __7841 [5]	__200.7 __279.2 __200.9			__99
Tin	__6010B	__200.7			__99
Titanium	__6010B	__200.7			__99
Uranium	__6010B [1]	__200.7 [1]		__1620	__99
Vanadium	__6010B	__200.7			__99
Zinc	__6010B	__200.7			__99
Zirconium	__6010B [1]	__200.7 [1]		__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/13/02

CLIENT: TNUHANFORD B02-059 H1797 LVL LOT #: 0205L803

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B14R98	Lead, Total	1300	UG/L	1.7	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/13/02

CLIENT: TNUHANFORD B02-059 H1797 LVL LOT #: 0205L803

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	02L0290-MB1	Lead, Total	9.0	UG/L	1.7	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/13/02

CLIENT: TNUHANFORD B02-059 H1797 LVL LOT #: 0205L803

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B14R98	Lead, Total	1890	1300	500	118.2	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/13/02

CLIENT: TNUHANFORD B02-059 H1797 LVL LOT #: 0205L803

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B14R98	Lead, Total	1300	1310	0.89	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/13/02

CLIENT: TNUHANFORD B02-059 H1797 LVL LOT #: 0205L803

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	02L0290-LC1	Lead, LCS	2500	2500	UG/L	99.8

Lionville Laboratory Use Only

02052803

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TNU-Hanford SAF # B02-059

Est. Final Proj. Sampling Date

Project # 11343-606-001-9999-00

Project Contact/Phone #

Lionville Laboratory Project Manager OJ

QC SPEC Del STD TAT 15 days

Date Rec'd 5-30-02 Date Due 6-14-02

		A
Refrigerator #		6
#/Type Container	Liquid	1PL
	Solid	
Volume	Liquid	500
	Solid	
Preservatives		HNO3

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

Lionville Laboratory Use Only: MPB10

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	
001	B14R98	✓	✓	W	5-23-02	1000	1

Special Instructions: SAF # B02-059

DATE/REVISIONS:

1. Sample label indicates that
2. its not preserved but sample
3. is.
4.
5.
6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # SEE BELOW; 2) ~~Ambient~~ or Chilled; 3) Received in Good Condition (Y) or N; 4) Samples Properly Preserved (Y) or N (CU 5-30-02); 5) Received Within Holding Times (Y) or N

Tamper Resistant Seal was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample (Y) or N; 4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 6.9 °C

Discrepancies Between Samples Labels and COC Record? (Y) or N

NOTES: 811511013993

Relinquished by	Received by	Date	Time
FEDEX	[signature]	5-30-02	1445

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B02-059-02	Page 1 of 1
Collector: R. Nielson/J. Gale	Company Contact: Mary Todd — Telephone No.: 372-9631	Project Coordinator: TRENT, SJ	Price Code: 9K — Data Turnaround: 15 Days
Project Designation: Damaged Battery Waste Designation Sampling	Sampling Location: 200 West	SAF No.: B02-059	Air Quality ☐
Ice Chest No.: 4GV	Field Logbook No.: EL-1562-1 — COA: B20TW167WC	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: HMSR 0010168	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS
pH 0.0 – 0.5
Tie To B14R97

Special Handling and/or Storage
None

Preservation	None
Type of Container	P
No. of Container(s)	1
Volume	500mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	ICP Metals - 6010A (Add-on) (Lead)
B14R98	OTHER LIQUID	5/23/02	1000	X

B14R97

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Nielson	1120 5/23/02	Ref #2B	5/23/02 1120
Ref. 2B 3728	5-29-02 0900	R. Fahlberg / R. Fahlberg	5-29-02 0900
R. Fahlberg / R. Fahlberg	5-29-02 0900	Fed Ex	
FEDEX	5-30-02 1445	[signature]	5-30-02 1445

SPECIAL INSTRUCTIONS
None

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

SAMPLE RECEIPT CHECKLIST

CLIENT: T/\/U-Hanford

Purchase Order/Project:

DATE: 5-30-02

SAF# / SOW# / Release #: 802-059

Laboratory SDG #: 0205L803

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

#	Item	Yes	No	N/A	see Comment #
1.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3.	Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4.	All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5.	Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7.	All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8.	All sample label information matches coc?	☐ Yes	☑ No	☐ N/A	☐ see Comment # 1
9.	Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10.	Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☐ Yes	☑ No	☐ N/A	☐ see Comment # 1
11.	Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12.	coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13.	coc faxed or emailed to client?	☐ Yes	☐ No	☐ N/A	☐ see Comment #
14.	Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☐ N/A	☐ see Comment #

Cooler # / temp and Comments:

SPEK

1510103993

Laboratory Sample Custodian: [signature]

Laboratory Project Manager:

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 0210290
Date/Time Initiated: 06/04/02
Date/Time Completed: 06/04/02
Analyst(s): PMP
Matrix: Soil (Water) Other:
Instr. Type: AA (ICP)
Parameters: See Backlog

(Digested) Undigested (circle one)
Balance #: N/A
Balance Cal Verif: Y (NA)
Hot Plate Temp: 92°

Method: SW (circle): (3005A), 3010A, 3015, 3020A, 7060A (As/Se), 7760A (Ag), 3050B, 3051
DW: 200.7 (1994), 200.9, 3113B
MCAWW: 200.7 (1982), 200 (AA), 206.2 (As/Se)
SM: 3030C (NC)
CLP: ILMO3.0, ILMO4.0
Other:

TN4/Weskem

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
0205L733-001		100	100	<2	Tot	N/A	Cloudy	N/A	N/A
-001R									
-001S	1.0								
0205L803-001							Clear		
-001R									
-001S	1.0								
0205L778-013									
0205L780-033									
-094									
0205L624-001									
0205L724-001									
0205L725-001									
0210290-MB1				N/A					
-LC1	1.0								

PMP 06/04/02
06-04-02

Spiking IDs:
MS #: 8100-02-05, -06, -07, 6072-48-14
LCS #: 6072-49-05, -06, -07, -08

Reagent IDs:
HNO3: X08043
HCL: 2612V27006
H2O2: [illegible] 6/5/02
1:1 HNO3: 8727-025-02
1:1 HCL: 8727-025-03

File ID#: IC029001
LIMS Transfer: (Y) N updated
Data Review By/Date: [illegible] 6/7/02